

REMARKS

Applicants request the Examiner to reconsider the application in view of the following remarks. Claims 1, 2, 4-6 and 12-14 are currently pending. Claims 7 to 11 have been withdrawn from consideration after a restriction requirement.

Claims 1, 2, 4-6 and 12-14 were rejected under 35 U.S.C. § 103(a) as purported to be obvious over U.S. Pat. No. 4,578,406 to Volz (hereinafter "Volz") in view of U.S. Pat. No. 5,114,755 to Canaday et al. (hereinafter "Canaday"). The Examiner states that Volz discloses reticulated polyurethane foams having a volume electrical resistivity of less than 10^{12} ohm-cm at 70 °F, which can be installed in fuel tanks to suppress explosions, but does not disclose a foam density of less than 1.0 pounds per cubic foot (pcf). The Examiner then contends that Canaday discloses explosion-suppressing polyurethane foams having densities between 0.6 and 0.9 pcf. Applicants respectfully disagree with the Examiner's interpretation of Canaday, and the Examiner's attempt to combine Canaday with Volz.

Pending claim 1 is directed to a method for suppressing an explosion in a fuel tank. This method comprises the step of installing into a tank a reticulated polyurethane foam having (1) a density of less than 1.0 pcf, and (2) a volume electrical resistivity of less than 10^{12} ohm-cm at 70 °F.

Volz discloses reticulated, conductive polyurethane foams having a volume electrical resistivity of less than 10^{13} ohm-cm, which can be installed in fuel tanks to suppress explosions. However, as the Examiner has recognized, Volz does not disclose a foam density of less than 1.0 pcf. *See, e.g.*, Example 1 at column 5, lines 62 to 65 and Example 4 at column 6, lines 24 to 27, where the foam density is disclosed as 1.3 pcf. Volz does not teach or suggest that lowering the density of these foams would be desirable.

Canaday has nothing to do with conductive foams for use in fuel tanks. Canaday discloses forming rigid, non-reticulated foams using halogenated organic blowing agents in combination with certain polyester polyols. Canaday indicates that the density of these foams can range from 0.5 to 10 pcf, but is preferably from 1 to 5 pcf. *See* col. 9, lines 32-35 of Canaday. Canaday does not disclose any values for the volume electrical resistivity of its foams.

The Examiner contends that Canaday teaches low density foams that are used to suppress an explosion. Applicants respectfully disagree with the Examiner's reading of Canaday. The only uses disclosed for Canaday's rigid foams are for forming laminated "building panels" or for use as pipe insulation. Canaday nowhere suggests that its foams can be used for suppression of explosions. Moreover, rigid foams suitable for building panels could not be interchanged with flexible foams that are installed inside fuel tanks to conform to the volume space of such fuel tanks.

For a claim to be obvious in view of combined teachings of two or more references, there must be some suggestion or motivation to combine the references so as to encompass the claimed invention. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). In other words, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so." See MPEP § 2143.01 (citing *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006)). Without such a suggestion or motivation to combine references, a *prima facie* case of obviousness is not established. See MPEP § 2142.

There is no suggestion or motivation for combining Volz and Canaday so as to encompass the method of claim 1. As pointed out above, Volz provides no motivation to persons skilled in the art that the reticulated foams taught by Volz would be improved by lowering density. For its part, Canaday would only motivate such persons to maintain the density of the foams of Volz above 1.0 pcf, since the preferred densities of Canaday are in the range between 1.0 and 5.0 pcf.

Even more significantly, skilled persons looking to improve upon the reticulated foams for use in fuel tanks would not even be disposed to consider Canaday. Canaday neither teaches nor suggests to persons skilled in the art that its rigid, non-reticulated foams could be used for suppressing explosions in fuel tanks, nor does it teach or suggest that foams in the lower density part of the broad range of densities disclosed in Canaday would possess the requisite conductivity for this use. The Examiner's hindsight-inspired selection of Canaday for its

teaching of a range of densities that extends below 1 pcf is not a proper criteria upon which to combine these references.

Since there is no suggestion or motivation for combining Volz and Canaday to encompass claim 1, the Examiner has failed to establish that claim 1 is *prima facie* obvious. Furthermore, since claims 2, 4-6 and 12-14 all depend directly or indirectly from claim 1, the Examiner has also failed to establish that these claims are *prima facie* obvious. Therefore, Applicants respectfully request that the above rejections be withdrawn.

In view of the above remarks, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 00124-01080-US from which the undersigned is authorized to draw.

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Respectfully submitted,



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